

Case 3403***Mecistocephalus* Newport, 1843 and *Pachymerium* Koch, 1847 (Chilopoda): proposed conservation of current usage by designation of *Mecistocephalus punctifrons* Newport, 1843 as the type species of *Mecistocephalus* Newport, 1843**

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Abstract. The purpose of this application, under Article 70.2 of the Code, is to conserve *Mecistocephalus punctifrons* Newport, 1843 as the type species of the genus *Mecistocephalus* Newport, 1843, following current universal use; this requires suppression of the earlier but long forgotten valid designation of *Geophilus ferrugineus* Koch, 1835 as the type species of this genus. Accepting *G. ferrugineus* as the type species of *Mecistocephalus* would threaten the current, universal use of both names *Mecistocephalus* Newport, 1843 and *Pachymerium* Koch, 1847 for two well-established genera of centipedes. These genera have long been recognised as very distinct and included in different families; both have a wide geographical distribution and encompass more than 120 and 20 valid species respectively. The name *Mecistocephalus*, as currently applied, is threatened by *Lamnonyx* Cook, 1896, which has not been used as valid in taxonomic and faunistic literature since 1945. The name *Pachymerium*, as currently applied, is threatened by *Mecistocephalus*, which is currently and universally applied to a different genus.

Keywords. Nomenclature; taxonomy; type species; Chilopoda; *Mecistocephalus*; *Pachymerium*; *Geophilus ferrugineus*; *Mecistocephalus punctifrons*; geophilomorph centipedes.

1. The name *Mecistocephalus* was introduced by Newport (1843a, p. 178) as a new genus including five species, but no type species was then designated. The originally included species are *Geophilus ferrugineus* Koch, 1835, *Geophilus maxillaris* Gervais, 1837, *Mecistocephalus guildingii* Newport, 1843, *Mecistocephalus punctifrons* Newport, 1843 and *Mecistocephalus punctilabium* Newport, 1843. The first valid designation of a type species for this genus, as recently discussed by Jeekel (2005), was by Cook (1896a, p. 61) who designated *Geophilus attenuatus* Say, 1821 as the type species of *Mecistocephalus* and recognised *Geophilus ferrugineus* Koch, 1835 as a synonym of *Geophilus attenuatus* Say, 1821. It follows that Cook (1896a, p. 61) validly designated the originally included species *G. ferrugineus* as the type species of *Mecistocephalus* (Article 69.2.2 of the Code – Eligibility of species for type fixation). However, the validity of Cook's action was disregarded or ignored by most authors, with the only exception of Silvestri (1919) who, in order to definitely clarify the identity of the type species of *Mecistocephalus*, fixed it as *Geophilus ferrugineus* Koch.

1835. In the meantime, Cook (1896b, p. 74) had indicated *Clinopodes carniolensis* Koch, 1847 as the type species of *Mecistocephalus*, but this designation is invalid as *C. carniolensis* is not among the species originally included in *Mecistocephalus* (Article 67.2 of the Code – Species eligible for type fixation (originally included nominal species)). Instead, Pocock (1898, p. 63) fixed *Mecistocephalus punctifrons* Newport, 1843 as the type species of *Mecistocephalus*, stating that this latter species had been ‘practically’ selected previously as the type species by H.C. Wood and F. Meinert in their influential publications (Wood, 1862, 1865; Meinert, 1870). Most subsequent authors accepted *Mecistocephalus punctifrons* as the type species of *Mecistocephalus* either explicitly (e.g. Chamberlin, 1914; Attems, 1929; Crabill, 1957) or in practice. A different opinion was advanced by Brolemann (1930, p. 81), who indicated *Geophilus maxillaris* Gervais, 1837 as the type species of *Mecistocephalus*.

2. The name *Mecistocephalus* has been applied by most authors to a well-recognised genus which encompasses, together with many subsequently described species, only three of the originally included species (*Geophilus maxillaris*, *Mecistocephalus guildingii* and *Mecistocephalus punctifrons*), whereas both *Geophilus ferrugineus* and *Mecistocephalus punctilabium* are universally treated as non-congeneric with *Mecistocephalus*. This largely prevailing use is due to the fact that almost all authors disregarded the validity of Cook’s action and circumscribed the genus *Mecistocephalus* as if based upon *Mecistocephalus punctifrons* or *Geophilus maxillaris*. Only Silvestri (1919), consequent to fixing *Geophilus ferrugineus* as the type species of *Mecistocephalus*, refrained from adopting *Mecistocephalus* for the genus considered above, but his action was not followed by most subsequent authors. Previous to its restriction to what eventually became its modern usage, the name *Mecistocephalus* was applied for a while in accordance with Newport’s original broader concept, thereby encompassing species now definitely regarded as belonging to different genera and families. This usage is limited to the following papers, mainly published in the 19th century: Newport (1843a, 1843b, 1844, 1845, 1856), Wood (1862, 1865, 1867), Saussure & Humbert (1872), Selivanov (1881), Karsch (1884), Meinert (1886), Haase (1887), McNeill (1887a, 1887b), Bollman (1893a), Cook (1896a, 1896b, 1904), Verhoeff (1896), Silvestri (1899, 1919) and Attems (1900, 1903). At present, the genus currently referred to as *Mecistocephalus* is well-established and unambiguously circumscribed; it includes more than 120 valid species many of which are among the most common geophilomorph centipedes in many tropical and subtropical regions of the world. It has been cited under the name *Mecistocephalus* in at least 150 papers, including all major taxonomic and faunistic publications (e.g. Haase, 1887; Chamberlin, 1920a, 1920b; Attems, 1929, 1947; Brolemann, 1930; Takakuwa, 1940; Crabill, 1959, 1970; Lawrence, 1960; Foddai et al., 2000; Bonato et al., 2003; Bonato & Minelli, 2004).

3. *Lammonyx* Cook, 1896 is the senior available genus-group name for the genus currently called *Mecistocephalus*, based on its current circumscription. *Lammonyx* was introduced by Cook (1896a, p. 61) as a new genus to include eleven nominal species. Cook (1896a) indicated *Lammonyx leonensis* Cook, 1896 as the type species of *Lammonyx*, but his designation is invalid because *L. leonensis* was not available at the time and therefore was not eligible as type species (Article 67.2.1 of the Code); indeed, *L. leonensis* was described in a different paper (Cook, 1896c) published later than Cook (1896a), as demonstrated by Jeekel (2005). *Mecistocephalus punctifrons*

Newport, 1843 was validly fixed as the type species of *Lammonyx* by Attems (1903, p. 211) (cf. Jeekel, 2005). In the taxonomic and faunistic literature, the use of *Lammonyx* as the valid name for the genus currently called *Mecistocephalus* or for a part of it was limited to the following papers, the most recent of which is dated 1945: Cook (1896a, b, c), Pocock (1896, 1897), Verhoeff (1902–1925, 1925a, b, 1945), Attems (1903, 1907, 1909a, b, c, d, 1910a, b, 1911a, b, 1912, 1914a, b, 1915, 1917), Silvestri (1904, 1919, 1924), Brölemann (1907, 1909, 1926), Ribaut (1907, 1912, 1914, 1915, 1922, 1923), Chamberlin (1914) and Schubart (1934). As far as we know, the only use of *Lammonyx* as valid in a paper more recent than 1945 was in a quite obscure paper reporting on caryological investigations (Mittal & Dipta, 1977).

4. *Pachymerium* Koch, 1847 was introduced by C.L. Koch (1847, p. 85) for a single species *Geophilus ferrugineus* Koch, 1835, which is the type species of *Pachymerium* by monotypy.

5. The name *Pachymerium* has been applied by most authors to a well-recognised genus of centipedes and is currently used consistently and universally as the valid name for this genus, disregarding the fact that it is a junior objective synonym of *Mecistocephalus* based on both having the same type species. At present, the genus currently called *Pachymerium* includes more than 20 valid species and is widespread in the world. It has been cited under the name *Pachymerium* in at least 300 papers, including most comprehensive taxonomic and faunistic publications (e.g. Koch, 1847; Verhoeff, 1902–1925, 1934; Attems, 1926, 1928, 1929, 1947; Folkmanova, 1928; Brolemann, 1930; Takakuwa, 1940; Lawrence, 1960; Eason, 1964; Matic, 1972; Würmli, 1972; Kaczmarek, 1979; Barber & Keay, 1988; Foddai et al., 1995, 2000; Stoev, 2002; Zapparoli, 2002) as well as some papers on anatomy, ecology and molecular biology (e.g. Palmén & Rantala, 1954; Schildknecht et al., 1968; Bastianello et al., 2002).

6. The family-group name MECISTOCEPHALIDAE Bollman, 1893 was introduced by Bollman (1893b, p. 166) as a subfamily of GEOPHILIDAE, based on the genus *Mecistocephalus*. The name was first used at the family rank in 1908 by Verhoeff (1902–1925, p. 271). The name MECISTOCEPHALIDAE has been applied by most authors to a universally recognised and unambiguously circumscribed family which does not include *Geophilus ferrugineus* Koch, 1835. A junior family-group name available for this family is DICELLOPHILIDAE Cook, 1896, which was introduced by Cook (1896a) for a new family based on *Dicellyphilus* Cook, 1896, which is currently universally recognised as a member of the same family as *Mecistocephalus*. Use of the family-group name DICELLOPHILIDAE as the valid name for this family was very limited (e.g. Cook, 1896a, 1896b; Silvestri, 1919), although it has been recently resurrected as a subfamily of MECISTOCEPHALIDAE (Bonato et al., 2003).

7. Accepting *Geophilus ferrugineus* Koch, 1835 as the type species of *Mecistocephalus* would threaten universality and stability because of the following implications: (i) the valid name for the well-established genus universally called *Mecistocephalus* would be *Lammonyx*, thus requiring new combinations for more than one hundred species now in *Mecistocephalus*; (ii) the valid name for the well-established genus universally called *Pachymerium* would be *Mecistocephalus*, thus requiring new combinations for some 20 species; (iii) the valid name for the well-established family universally called MECISTOCEPHALIDAE Bollman, 1893 would be DICELLOPHILIDAE Cook, 1896.

8. The International Commission on Zoological Nomenclature is accordingly asked:
- (1) to use its plenary power to set aside all previous fixations of type species for the nominal genus *Mecistocephalus* Newport, 1843 before the designation by Pocock (1898) of *Mecistocephalus punctifrons* Newport, 1843 as the type species;
 - (2) to place on the Official List of Generic Names in Zoology the following names:
 - (a) *Mecistocephalus* Newport, 1843 (gender: masculine), type species *Mecistocephalus punctifrons* Newport, 1843, as ruled in (1) above;
 - (b) *Pachymerium* Koch, 1847 (gender: masculine), type species *Geophilus ferrugineus* Koch, 1835, by monotypy;
 - (3) to place on the Official List of Specific Names in Zoology the following names:
 - (a) *punctifrons* Newport, 1843, as published in the binomen *Mecistocephalus punctifrons* (specific name of the type species of *Mecistocephalus* Newport, 1843);
 - (b) *ferrugineus* Koch, 1835, as published in the binomen *Geophilus ferrugineus* (specific name of the type species of *Pachymerium* Koch, 1847).

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